

REMARKS

Claims 1, 4, 6-9, 14-17, 22-25, 30-35, 37, 38, and 42-46 are pending in this application. Claims 1, 4, 9, 25, 33, 35, 36, 38, 42, 44, and 45 are amended herein. Claims 2, 3, 5, 10-13, 18-21, 26-29, and 39-41 are cancelled. New claim 46 is added.

The Objection to the Specification

The specification is objected to for allegedly introducing new matter into the disclosure. Specifically, the formula 1 had been changed such that the end portion of the molecule -G-(SiX₃)₃ was changed to -G-(SiX₃)_S. The specification has been amended to again recite that the end portion of the molecule is -G-(SiX₃)₃. Reconsideration and withdrawal of the objection are respectfully requested.

The Rejection of the Claims Under 35 U.S.C. §112

1. Claims 1, 3 and 42 are rejected under 35 U.S.C. §112, first paragraph for the reasons stated at page 3 of the Office Action. In response to the Examiner's comments in the Advisory Action, claims 1 and 42 are amended herein to recite that the total amount of silica is up to 110 phr.

Claim 3 has been canceled, its recitations being incorporated into Claim 1. However, the limitation that each R contains 1 to 18 carbon atoms is included in Claim 1.

Reconsideration and withdrawal of the rejection under 35 U.S.C. §112, first paragraph are respectfully requested.

2. Claims 1-4, 6-9, 14-17, 22-25 and 30-41 are rejected under 35 U.S.C. §112, second paragraph for the reasons set forth at pages 4 and 5 of the Office Action.

It is respectfully submitted that Claims 1 and 42 as amended herein overcome this rejection.

Claims 3, and 39-41 are canceled.

It is respectfully submitted that this rejection has been overcome. Reconsideration and withdrawal of the rejection are respectfully requested.

The Rejections Under Prior Art

1. Claims 1, 7, 8, 17 23, 24, 33 and 42 are rejected under 35 U.S.C. §102(b) as being anticipated by Hamada, U.S. Patent No. 5,409,969.

Independent claims 1 and 42 are amended to incorporate the features of Claims 2 and 3, which were not covered by this rejection. Accordingly, it is submitted that this rejection has been overcome. Reconsideration and withdrawal of the rejection are respectfully requested.

2. Claims 1-4, 6-9, 14-17 22-24 33-35, 37 and 39-43 are rejected under 35 U.S.C. §103(a) as being obvious over Cruse et al. (WO 99/09036) in view of Patitsas et al. (WO 99/22951).

Cruse et al. discloses blocked mercapto silanes of the formula claimed herein and fillers such as silica and carbon black. Cruse et al. does not disclose silica/rubber mixtures wherein the

silica content is up to 110 phr., or with MQ resins, thermoplastic resin, or thermosetting resin.

Carbon black has been canceled from Claims 1 and 42.

In particular, Cruse et al. fails to realize that blocked mercaptosilane coupling agents cause a decrease in hardness of the resulting silica/rubber mixtures. Therefore, Cruse et al. provides no motivation to offset the effect of the blocked mercaptosilane by adding an excess amount of hardness-increasing fillers, and does not disclose or suggest a hardness increasing amount *above the amount necessary to achieve equivalent Shore A hardness of the silica/rubber mixture as compared with the use of bis-(triethoxysilylpropyl disulfide) as the silane*, as recited in claim 1. Moreover, Cruse et al. discloses a silica content of up to an upper limit of 100 phr., but provides no suggestion for blending more than 100 phr. (See, amended claim 36 and new claim 46). The realization of the hardness decreasing effect of the blocked mercaptosilanes by modification of filler-filler interactions and the motivation to offset the decrease in hardness by increasing the silica loading is provided in Applicant's specification at page 13, line 19 to page 14, line 10.

Improvement of hardness by addition of inorganic and organic oligomeric and polymeric materials is discussed in the specification at page 14, lines 11 to 18.

There is no motivation for combining the teachings of Patitsas et al. with Cruse et al., and even if such a combination were to be made, Applicants' claimed invention would neither be disclosed nor suggested.

Patitsas et al. does not address the same problem as Cruse et al. The problem which Patitsas et al. deals with is the hysteresis caused by high levels of carbon black, which increases

the rolling resistance of a tire (Patitsas et al., page 1, lines 8-10). The portion of the tire to which Patitsas is directed is the *crown* portion of the tire (belts 36, gum strips 39, and overlay ply 42). Patitsas et al. is *not* directed to the tread portion of the tire 44.

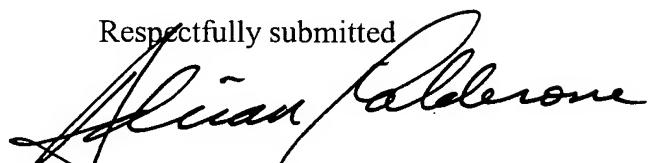
Cruse et al., on the other hand, is directed to the tread portion of the tire. (Cruse et al., page 26, line 24 - page 27, lines 1-3). Treads require high abrasion resistance (hardness). One skilled in the art would recognize that different portions of the tire are subjected to different forces and have different mechanical requirements. Hence, the rubber formulation best suited for the crown portions of the tire are not necessarily the best suited for the treads. Therefore, one skilled in the art would not be motivated to employ the additives of Patitsas et al. in Cruse et al.

Nevertheless, even should the combination be made, Patitsas et al. does not cure the deficiencies of the Cruse et al. reference with respect to the present claims as amended. As noted above, Cruse et al. does not disclose the hardness increasing members now recited in Claim 1, and neither does Patitsas et al. Patitsas et al. teaches the replacement of a portion of the amount of carbon black filler with thermoplastic resins such as polyamides and polypropylene. Patitsas et al. does not mention or suggest silica, MQ resins, thermoset resins, or the polyethylene resins recited in Applicants' claims. Accordingly, independent claims 1, 25, 42, 44 and all claims depending therefrom, are submitted to be allowable. Reconsideration and withdrawal of the rejection are respectfully requested.

CONCLUSION

For at least the reasons stated above all of the pending claims are submitted to be in condition for allowance, the same being respectfully requested.

Respectfully submitted



Adrian T. Calderone
Reg. No. 31,746
Attorney for Applicants

DILWORTH & BARRESE, LLP
333 Earle Ovington Blvd.
Uniondale, NY 11553
Tel: (516) 228-8484
Fax: (516) 228-8516